## REMARKS

This amendment is filed in response to the Office Action dated August 5, 2004. Applicant submits that this amendment should be entered, the application allowed, and the case passed to issue.

No new matter or considerations are raised by this amendment. The claims have been amended in accordance with the Examiner's recommendation to obviate the section 112 rejections.

Claims 1-18 are pending in this application. Claims 1-6, 10-12, and 14-18 are rejected. Claims 7-9 and 13 have been allowed. Claims 1, 2, 5, and 10 have been amended in this response.

### *Interview Summary*

Examiner Loke is thanked for the courtesy of granting a personal interview with the undersigned on October 6, 2004. During the interview, the undersigned explained that the proposed claim amendments would overcome the rejections under 35 U.S.C. § 112. The Examiner agreed that the amendments seem to overcome the section 112 rejections. The undersigned asserted that the proposed amendment should be entered because it overcomes the section 112 rejections in accordance with the Examiner's recommendations. The Examiner indicated that the proposed amendment may require further consideration and an updated search.

### *Claim Rejections Under 35 U.S.C. § 112*

Claims 1-6, 12, and 14-18 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

The Examiner asserts that the specification does not convey to one of skill in this art that the inventor had possession of the claimed invention at the time the application was filed. The Examiner characterizes FIG. 14 as disclosing a position of an interface between n-type first region 2 and p-type fourth region 7 in a depth direction changes for a cross section crossing the region along a direction substantially orthogonal to the direction of the current flow. Therefore, the Examiner avers that the specification does not disclose that a position of an interface between the first region and the fourth region in a depth direction changes for any cross sections crossing the region along a direction substantially orthogonal to the direction of the current flow. The Examiner further avers that the specification does not disclose a plurality of fourth regions spaced from each other by a distance allowing connection between depletion layers extending from the neighboring fourth regions, respectively, in an on state, as required by claim 5. Furthermore, the Examiner asserts that the specification does not disclose the position of an interface between the first region and the fourth region in the depth direction changes for any cross sections crossing a region in which the interface exists along a direction of flow of the current, as claimed in claim 2. In addition, the Examiner urges that the specification does not disclose the fourth region is spaced apart from the third region as claimed in claims 17 and 18.

In response to this rejection, claims 1, 2, and 5 have been amended to change "any cross sections" to -- a cross section --, as attached. Further, as regards claim 2, the limitation, "a position of an interface between the first region and the fourth region in a depth direction changes for any cross sections crossing a region in which the interface exists along a direction of flow of the current" has been deleted. In addition, as regards the rejection of claim 5, the limitation "a position of an interface between the first region and the fourth region in a depth direction changes for any cross sections crossing a region along a direction substantially

orthogonal to the direction of the current flow" has been deleted. Applicant submits that claim 5 encompasses the embodiment of the invention illustrated in Figures 1-3.

As regards the rejection of claims 17 and 18, there is ample teaching in the specification of a fourth region spaced apart from a third region, including Figures 1-3, 14, 17, 22, 26, 27, and 29. The Examiner asserts that Fig. 26 discloses a p-type third region (5) in contact with the p-type fourth region (7). However, Fig. 26 discloses a plurality of p-type fourth regions and discloses p-type fourth regions spaced apart from the p-type third region.

Claims 1, 3-6, 10-12, 14-16, and 18 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

The Examiner maintains that the phrase "a sixth region" is unclear. As regards claim 10, the Examiner believes that it is unclear how a plurality of discretely formed regions are able to have a depth changing as a position moves in a direction crossing a direction of flow of the current.

In response to this rejection, "sixth region" has been changed to -- fifth region --. The "fifth region" in claims 1 and 5 is distinguishable from the "fifth region" in separate, independent claim 2.

As regards claim 10, the limitation "said fourth region having a depth changing as a position moves in a direction crossing a direction of flow of the current" has been deleted.

The proposed amendments clearly distinguish the different claimed embodiments and are fully supported by the specification. Amended claims 1, 2, 5, and 10 are fully supported by the written description without combining different embodiments.

*Allowable Subject Matter*

Applicant gratefully acknowledges that claims 7-9 and 13 are allowed.

In light of the above Amendments and Remarks, this amendment should be entered, the application allowed, and the case passed to issue. If there are any questions regarding these remarks or the application in general, a telephone call to the undersigned would be appreciated to expedite prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

MCDERMOTT WILL & EMERY LLP

Bernard P. Codd
Registration No. 46,429

600 13th Street, N.W.
Washington, DC 20005-3096
202.756.8000 BPC:BPC
Facsimile: 202.756.8087
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